

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,913	11/14/2003	Hideo Ogawa	501.39981CX1	7654

20457 7590 08/26/2004

ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 NORTH SEVENTEENTH STREET
SUITE 1800
ARLINGTON, VA 22209-9889

EXAMINER

ELMORE, STEPHEN C

ART UNIT PAPER NUMBER

2186

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/706,913

Applicant(s)

OGAWA ET AL.

Examiner

Stephen Elmore

Art Unit

2186

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/836,458.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>November 14, 2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This application is a Continuation of prior parent application 09/836,458, now US Patent 6,763,438.
2. Claims 1-27 are presented for examination.
3. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Priority

4. This application claims right of priority based on the above noted US parent application and Japanese Application No. 2000-122373, filed April 18, 2000. The claimed priority status is acknowledged and **granted**.

Drawings

5. The drawings are objected to under 37 CFR § 1.84(o) because they contain an element depicted in Fig. 1 that lacks a meaningful legend. Specifically, in Figure 1 the ellipse element that connects Hosts 100-1, 100-2, and 100-3, and element 111 does not have a suitable label.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the

Art Unit: 2186

renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

6. The disclosure is objected to because of the following informalities:

a. page 1, first sentence, the current status of application 09/836,458 should be updated to reflect that is now US Patent 6,763,438.

Appropriate correction is required.

Claim Objections

7. Claims 3-10 and 12-27 are objected to because of the following informalities:

a. claims 3, 4, 7, 8, 12, 13, 16, 17, 20-23, in two separate instances in each of these claims, the language reading "...disk drives are normal communication route" is non-idiomatic English, the grammatically correct English should read, "...disk drives are a normal communication route;

b. claims 5, 6, 9, 10, 14, 15, 18, 19, 24, 25, the language "some of the first plurality of communicating lines is changed" is non-idiomatic English, the grammatically correct English should read, "some of the first plurality of communicating lines are changed";

c. claims 5, 6, 9, 10, 14, 15, 18, 19, 24-26, the language "when a failure happen" is non-idiomatic English, the grammatically correct English should read, "when a failure happens".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

Art Unit: 2186

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are indefinite because:

a. claims 1, 2, 5, 6, 9-11, 14, 15, 18, 19, and 24-27, in the language,

"a first plurality of connecting parts" and "a second plurality of connecting parts";

The term "connecting parts" in each of these claims is a relative, vague or indefinite term which renders the scope of the claim indefinite. First, the term "connecting parts" is not defined by the claim. Second, the term is not defined in the specification. And third, the term is not a term in the art of disk storage systems to which these claims are directed. For all the above reasons, the usage of the term "connecting parts" does not provide for one of ordinary skill in the art to be reasonably apprised of the Applicant's intended scope of the claimed invention, because the use of the term "connecting parts" makes the scope indefinite;

b. claim 1, in the language,

"a cache memory storing data communicating between the host communication port..."

this language is indefinite because the use of the "communicating" terminology makes it unclear what element is performing the communicating activity because this language suggests that it is the cache that is "communicating," but a cache memory only stores data, it is not any kind of communication agent so it is not possible for the cache to perform the "communicating,"

Art Unit: 2186

therefore, the scope of meaning of this language does not make sense technically, however, the following suggested amended language would be clear and consistent with the specification,

"a cache memory storing data, which is communicated between the host communication port...";

c. claims 5, 6, 9, 10, 14, 15, 18, 19, and 24-27, in the language,

"wherein...the first (or second)...lines...communicate...via the first plurality of connecting parts in usual"

this language is indefinite because of the use of the "in usual" terminology, since the use of this language does not make clear what meaning should be given to the scope of the activity "in usual";

d. claims 5, 6, 9, 10, 14, 15, 18, 19, and 24-27, in the language,

"wherein...the first (or second)...lines communicate...via the first plurality of connecting parts in usual"

this language is indefinite because of the use of the "lines communicate" terminology, since "lines" are not communication agents they themselves do not "communicate" with anything, they merely permit communication since they are channels of communication, but this language suggests that it is the lines themselves which perform the communicating, therefore, this language is not technically accurate and is indefinite, however, the following suggested amended language would be clear and consistent with the specification,

"wherein...the first (or second)...lines permit communication...via the first plurality of connecting parts in usual";

e. claims 5, 6, 9, 10, 14, 15, 18, 19, and 24-27, in the language,

"however, some of the first (or second) plurality of communicating lines is changed to some of the second plurality of lines when a failure happen"

this language is indefinite or unclear in scope because it suggests that the first lines are physically changed into the second lines, that is, the first lines become the second lines, which language is nonsensical and a concept that is not supported in the specification, however, the specification does support the concept that the first and second lines are "switched" when a failure happens, and therefore, this language should be amended to reflect the switching activity from the first lines to the second lines, and alternatively, from the second lines to the first lines, as the case may require to overcome the conclusion of indefinite scope;

f. claims 3, 4, 7, 8, 12, 13, 16, 17, 20-23 inherit the deficiencies of the preceding claim in the claim dependency chain.

Allowable Subject Matter

10. Claim 1 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

11. Claims 2-27 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Elmore whose telephone number is (703) 308-6256. The examiner can normally be reached on Mon-Fri from 7:30-4:00.

Art Unit: 2186

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Kim can be reached on (703) 305-3821. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Stephen Elmore
Assistant Examiner
Art Unit 2186

August 22, 2004